# CHRD 2022: Abstract & Poster Submission Form

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**Presenter Status**

⊙ Undergraduate Students

○ Masters Student

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○ Post-Doctoral Fellows

○ Residents

○ Non-Trainee

**Research Category**

○ Basic Science

⊙ Clinical

○ Community Health / Policy

**Role in the project**

☑ Design

☐ Perform Experiments

☑ Analyze Data

☑ Write Abstract

☐ 

**Title**

Assessing Physiological Aspects of Maternal Mental Health and Parenting Strategies

**Background**

Healthy family and child development are strongly linked to maternal stress physiology and parenting practices, with important implications for how a mother's biology may impact and be impacted by stress in the home. Here, we explore the potential relationship between maternal physiological processes and parenting behaviours over a one-week period using wearable health monitors.

## Objective

We hypothesized that maternal heart rate, sleep duration and physical activity derived from wearable health monitors would be associated with the self-report measures of parenting stress, over-reactive discipline styles and proactive parenting behaviour.

## Methods

139 mothers experiencing moderate to severe anxiety and depression were recruited to participate in a ten-week parenting intervention. Self-reported parenting stress, over-reactivity and proactive behaviour were obtained through online questionnaires. Fitbit Inspire 2 watches were utilized to collect participant heart rate, sleep duration and daily steps over one week. Multiple regression analysis was used to test the relationship between the physiological measures and parenting behaviour.

## Results

The multiple regression analysis revealed a significant relationship between parental stress physiological measures collected [$R^2$ = .121, $F_{(3,63)}$ = 2.877, p = .043]. The multiple regression also revealed that the physiological measures were significantly associated with both maternal over-reactivity [$R^2$ =.127, $F_{(3,63)}$ = .3.065, p = .034] and positive parenting behaviours [$R^2$ = .165, $F_{(3,63)}$ = 4.139, p =.010]. Amongst physiological measures, heart rate was the only significant predictor for each regression (see Table 1).

## Conclusion

Results demonstrate a significant relationship between maternal physiological processes assessed via wearable health monitor and self-reported parenting behaviour. The results extend laboratory findings to a real-world context and speak to the potential relevance of heart rate as an indicator of parenting behaviours. Such findings can be used to better inform parental and mental health interventions by helping identify parents who may be most in need of service.

**Do you have a table/figure to upload?**
⊙ Yes  ○ No

CHRD_table_SITKA.pdf

# Authors

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**Table 1**

*Standardized Beta Coefficients and Confidence Intervals for the Independent Predictor of Heart Rate*

| Model | Heart Rate Standardized Beta Coefficient | *t* | *p* | 95% CI | |
|---|---|---|---|---|---|
| | | | | LL | UL |
| Parenting Stress | .347 | 2.833 | .006 | .640 | 3.702 |
| Positive Behaviour | -.339 | -2.838 | .006 | -2.001 | -.347 |
| Over Reactivity | .333 | 2.727 | .008 | .813 | 5.276 |

*Note*. CI = confidence interval; *LL* = lower limit; *UL* = upper limit